
XPC User Guide

For the : XG41

Shuttle®

XPC Installation Guide

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CAUTION

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Laser compliance statement

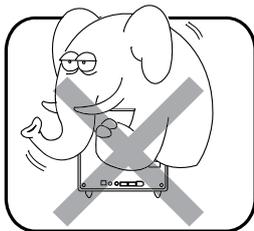
The optical disc drive in this server is a laser product. The drive's classification label is located on the drive.

CLASS 1 LASER PRODUCT

CAUTION : INVISIBLE LASER RADIATION WHEN OPEN.
AVOID EXPOSURE TO BEAM.

Installation Notices

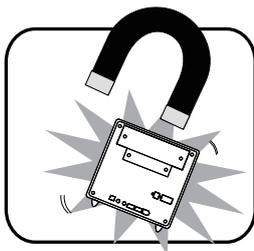
Do not place this device underneath heavy loads or in an unstable position.



Do not expose this device to high levels of direct sunlight, high-humidity or wet conditions.



Do not use or expose this device around magnetic fields as magnetic interference may affect the performance of the device.



Do not block the air vents to this device or impede the airflow in any way.

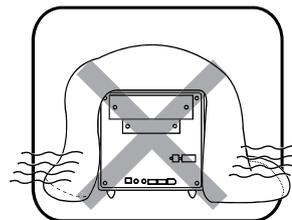


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Driver and Software Installation

■ Motherboard Driver CD

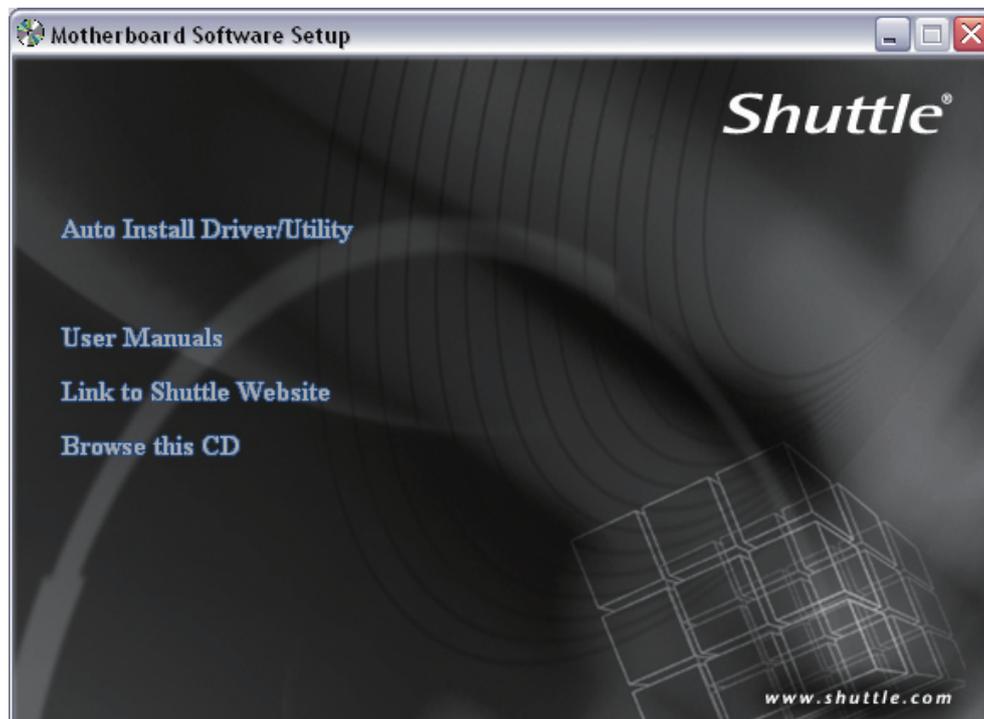
 The CD contents attached in XG41 Series motherboard are subject to change without notice.

The Motherboard Driver CD contains all the motherboard drivers necessary to optimize the performance of this Shuttle Xvision in a Windows® OS. Install these drivers after installing Microsoft® Windows®.

Insert the attached CD into your CD-ROM drive. The CD AutoRun screen should appear. If the AutoRun screen does not appear, double click on Autorun icon in My Computer to bring up Shuttle Mainboard Software Setup screen.

Navigation Bar Description :

- ☞ Auto Install Driver/ Utility.
- ☞ User Manuals - Motherboard Manual, Quick Guide.
- ☞ Link to Shuttle Website - Link to shuttle website homepage.
- ☞ Browse this CD - Allows you to see contents of this CD.



■ User Manuals

- ☞ Motherboard Manual
- ☞ Quick Guide



Starting BIOS

AMIBIOS has been integrated into many motherboards for over a decade. In the past, people often referred to the AMIBIOS setup menu as BIOS, BIOS setup, or CMOS setup.

American Megatrends refers to this setup as BIOS. Specifically, it is the name of the AMIBIOS8 BIOS setup utility. This chapter describes the basic navigation of the BIOS setup screens.

Enter the BIOS

To enter the BIOS setup screens, follow the steps below:

Step1. Power on the motherboard.

Step2. Press the <Delete> key on your keyboard when you see the following text prompt: **Press DEL to run Setup.**

Step3. After you press the <Delete> key, the main BIOS setup menu displays. You can access the other setup screens from the main BIOS setup menu, such as the Chipset and Power menus.



This manual describes the standard look of the BIOS setup screen. The motherboard manufacturer has the ability to change any and all of the settings described in this manual. This means that some of the options described in this manual do not exist in your motherboard's AMIBIOS.



In most cases, the <Delete> key is used to invoke the BIOS setup screen. There are a few cases that other keys are used, such as <F1>, <F2>, and so on.

BIOS Setup Menu

The main BIOS setup menu is the first screen that you can navigate. Each main BIOS setup menu option is described in this user's guide.

The Main BIOS setup menu screen has two main frames. The left frame displays all the options that can be configured. "Grayed-out" options cannot be configured. Options in blue can be.

The right frame displays the key legend. Above the key legend is an area reserved for a text message. When an option is selected in the left frame, it is highlighted in white.

Often a text message will accompany it.



AMIBIOS8 has default text messages built into it. The motherboard manufacture retains the option to include, leave out, or change any of these text messages. They can also add their own text messages. Because of this, many screen shots in this manual are different from your BIOS setup screen.

The BIOS setup/utility uses a key-based navigation system called hot keys. Most of the BIOS setup utility hot keys can be used at any time during the setup navigation process. These keys include <F1>, <F10>, <Enter>, <ESC>, <Arrow> keys, and so on.



There is a hot key legend located in the right frame on most BIOS setup screens.

Hot Key	Description
→ Left ← Right	The Left and Right <Arrow> keys allow you to select a BIOS setup screen. For example: Main screen, Advanced screen, Chipset screen, and so on.
↑ Up ↓ Down	The Up and Down <Arrow> keys allow you to select an BIOS setup item or sub-screen.
+ - Plus/Minus	The Plus and Minus <Arrow> keys allow you to change the field value of a particular setup item. For example: Date and Time.
Tab	The <Tab> key allows you to select BIOS setup fields.
F1	The <F1> key allows you to display the General Help screen. Press the <F1> key to open the General Help screen.
F10	The <F10> key allows you to save any changes you have made and exit BIOS Setup. Press the <F10> key to save your changes. Press the <Enter> key to save the configuration and exit. You can also use the <Arrow> key to select Cancel and then press the <Enter> key to abort this function and return to the previous screen.
ESC	The <Esc> key allows you to discard any changes you have made and exit the BIOS Setup. Press the <Esc> key to exit the BIOS setup without saving your changes. Press the <Enter> key to discard changes and exit. You can also use the <Arrow> key to select Cancel and then press the <Enter> key to abort this function and return to the previous screen.
Enter	The <Enter> key allows you to display or change the setup option listed for a particular setup item. The <Enter> key can also allow you to display the setup sub-screens.

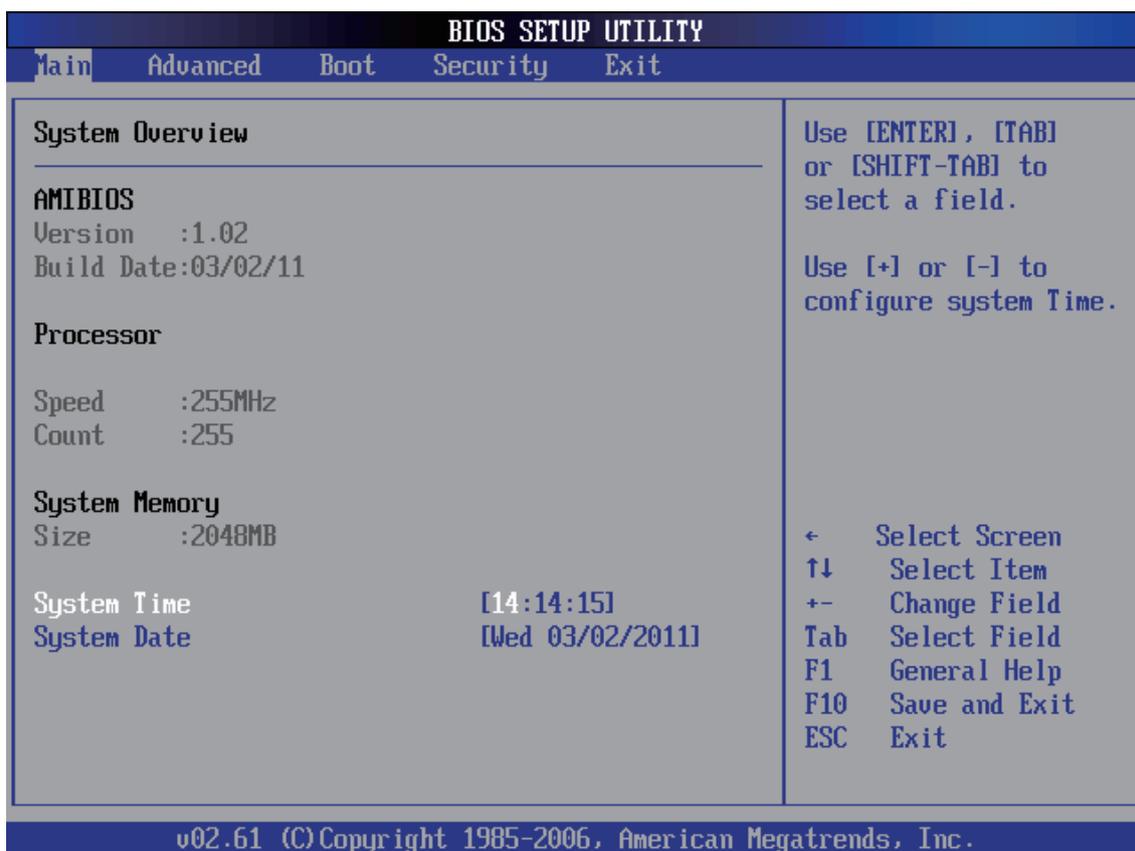


The <F8> key on your keyboard is the Fail-Safe key. It is not displayed on the BIOS key legend by default. To set the Fail-Safe settings of the BIOS, press the <F8> key on your keyboard. It is located on the upper row of a standard 101 keyboard. The Fail-Safe settings allow the motherboard to boot up with the least amount of options set. This can lessen the probability of conflicting settings.

Main Setup

When you first enter the BIOS Setup Utility, you will enter the Main setup screen.

You can always return to the Main setup screen by selecting the Main tab. There are two Main Setup options. They are described in this section. The Main BIOS Setup screen is shown below.



System Time/System Date

Use this option to change the system time and date. Highlight System Time or System Date using the <Arrow> keys. Enter new values through the keyboard. Press the <Tab> key or the <Arrow> keys to move between fields. The date must be entered in MM/DD/YY format. The time is entered in HH:MM:SS format.

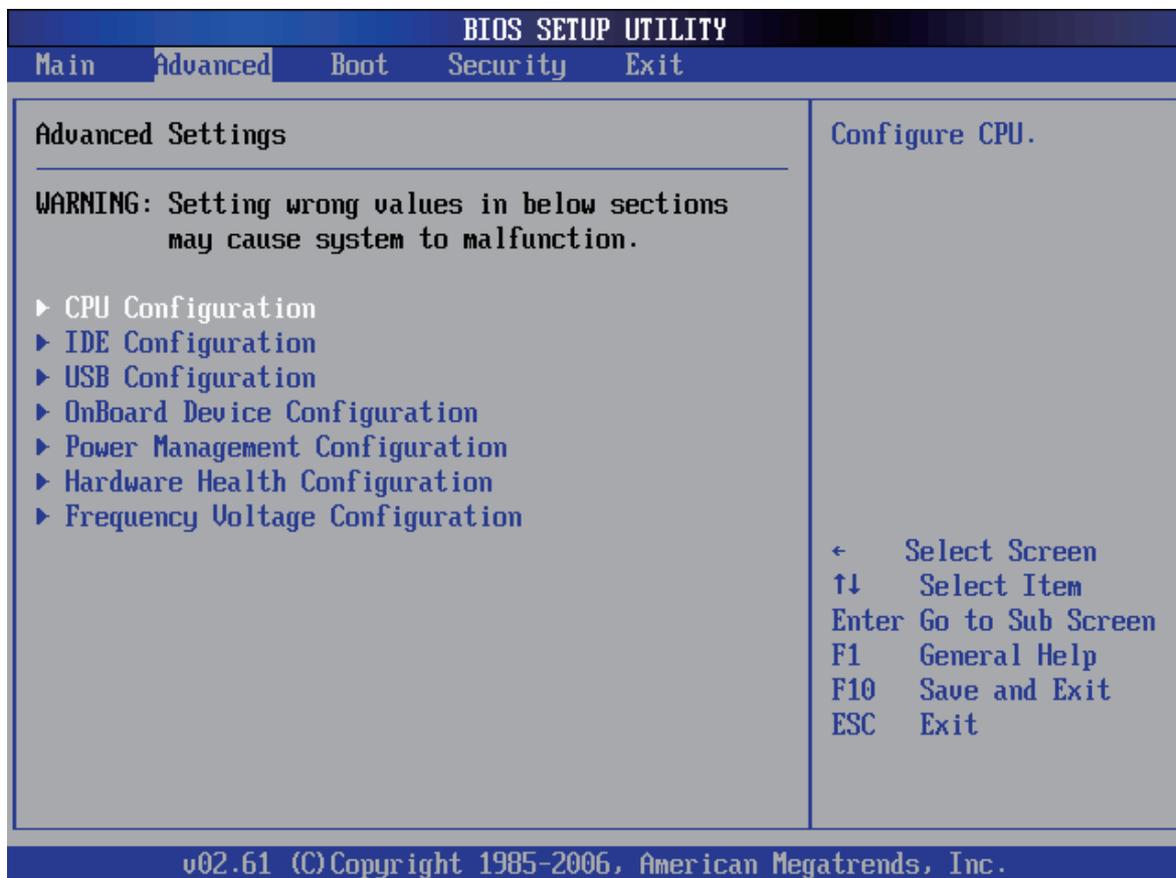
 The time is in 24-hour format. For example, 5:30 A.M. appears as 05:30:00, and 5:30 P.M. as 17:30:00.

Advanced

Select the Advanced tab from the BIOS setup screen to enter the Advanced BIOS Setup screen. You can select any of the items in the left frame of the screen, such as CPU Configuration, to go to the sub menu for that item.

You can display an Advanced BIOS Setup option by highlighting it using the <Arrow> keys. All Advanced BIOS Setup options are described in this section.

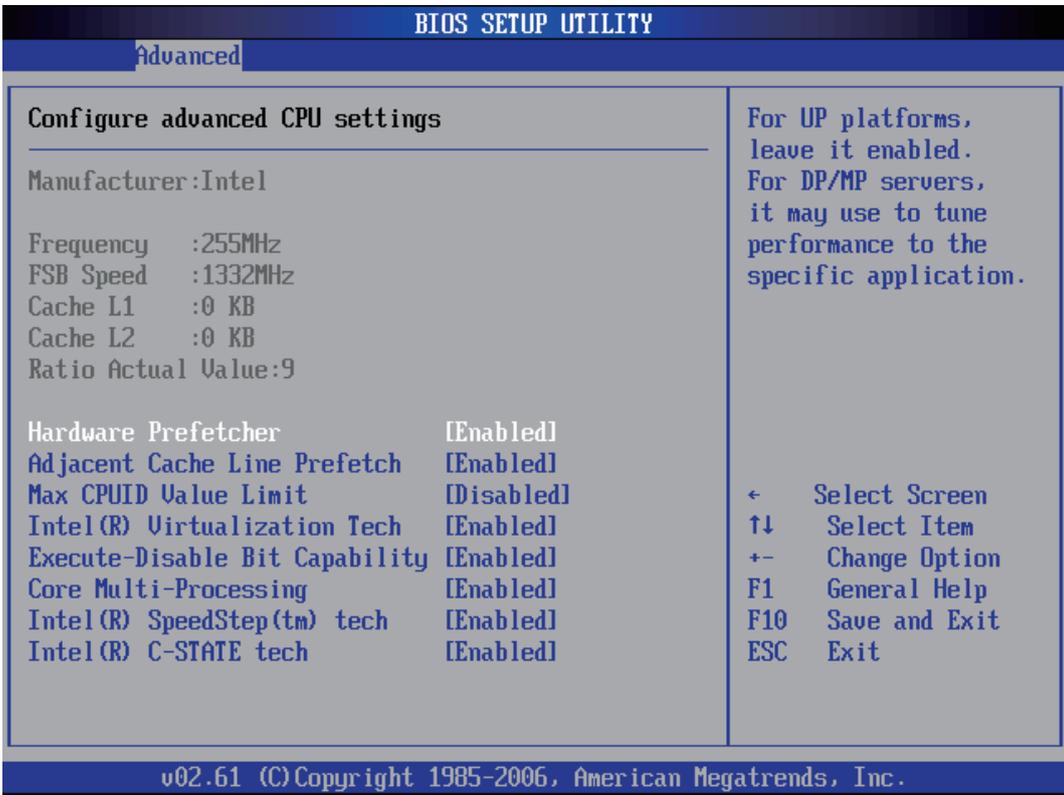
The Advanced BIOS Setup screen is shown below. The sub menus are described on the following pages.



CPU Configuration

You can use this screen to select options for the CPU Configuration Settings. Use the up and down <Arrow> keys to select an item. Use the <Plus> and <Minus> keys to change the value of the selected option. A description of the selected item appears on the right side of the screen. The settings are described on the following pages. An example of the CPU Configuration screen is shown below.

 The CPU Configuration setup screen varies depending on the installed processor.



Hardware Prefetcher

When enabled, the processor's hardware prefetcher will be enabled and allowed to automatically prefetch data and code for the processor. When disabled, the processor's hardware prefetcher will be disabled.

- The choice: Enabled or Disabled.

Adjacent Cache Line Prefetch

When enabled, the processor will retrieve the currently requested cache line, as well as the subsequent cache line. When disabled, the processor will only retrieve the currently requested cache line.

- The choice: Enabled or Disabled.

Max CPUID Value Limit

This item allows you to enable or disable the Max CPUID Value Limit. For Prescott CPU only, some OSes (ex. NT4.0) cannot handle the function with disable. This should be enabled in order to boot legacy OSes that cannot support CPUs with extended CPUID functions.

Set Limit CPUID MaxVal to 3, Should Be "Disabled" for WinXp.

➤ The choice: Enabled or Disabled.



Some older O.S.'s (Win98, WinMe..) cannot handle a CPUID MaxVal greater than 3. Please choose "Enabled" if you use one of those O.S. If your O.S. is WinXP or Win2000, we suggest you "Disabled" the item.

Intel(R) Virtualization Tech

When enabled, a VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.

➤ The choice: Enabled or Disabled.



CPU support, item appear.

Execute-Disable Bit Capability

Execute Disable Bit functionality can help prevent certain classes of malicious buffer overflow attacks when combined with a supporting operating system. When disabled, forces the XD feature flag to always return 0.

➤ The choice: Enabled or Disabled.



CPU support, item appear.

Core Multi-Processing

This item allows you to enable or disable the Core Multi-Processing. When disabled, it disables one execution core.

➤ The choice: Enabled or Disabled.

Intel(R) SpeedStep(tm) tech

This item allows you to enable or disable the Intel(R) SpeedStep(tm) tech. Processor can switch between multiple frequency and voltage points to enable power savings.

➤ The choice: Enabled or Disabled.

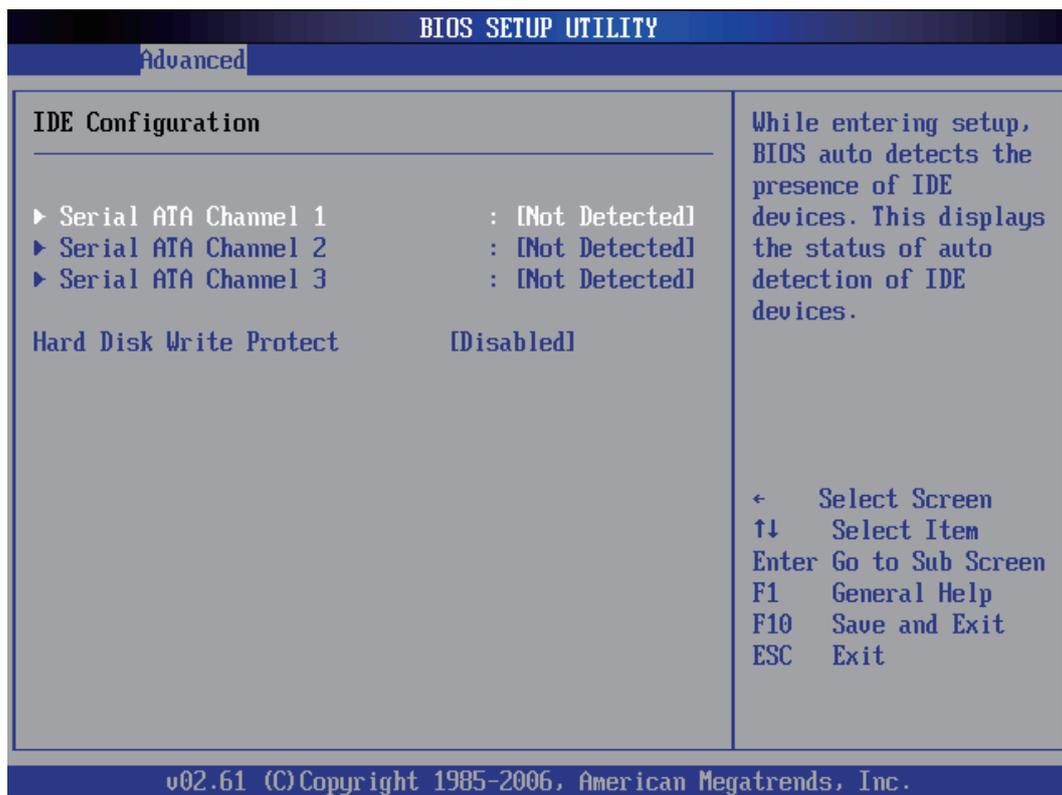
Intel (R) C-STATE tech

This item allows you to enable or disable the Intel(R) C-State tech.
Processor can set to C2/C3/C4 when it is idle.

- The choice: Enabled or Disabled.

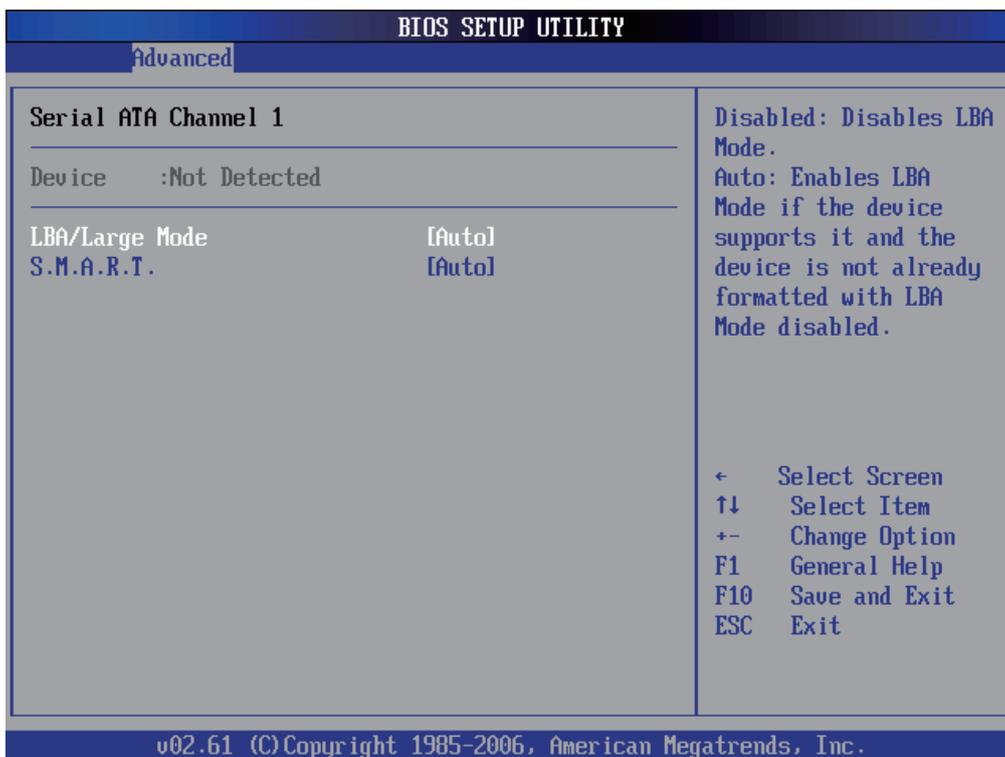
IDE Configuration

You can use this screen to select options for the IDE Configuration Settings. Use the up and down <Arrow> keys to select an item. Use the <Plus> and <Minus> keys to change the value of the selected option. A description of the selected item appears on the right side of the screen. The settings are described on the following pages. An example of the IDE Configuration screen is shown below.



Press <Enter> to access the sub menu for the IDE drives.

The screen is shown below.



Type

This option sets the type of device that the AMIBIOS attempts to boot from after the Power-On Self-Test (POST) has completed.

- The choice: Not Installed,Auto,CD,ARMD.

LBA/Large Mode

LBA (Logical Block Addressing) is a method of addressing data on a disk drive. In LBA mode, the maximum drive capacity is 137 GB.

- The choice: Disabled,Auto.

 For drive capacities over 137 GB, your AMIBIOS must be equipped with 48-bit LBA mode addressing. If not, contact your motherboard manufacturer or install an ATA/133 IDE controller card that supports 48-bit LBA mode.

S.M.A.R.T.

Self-Monitoring Analysis and Reporting Technology (SMART) feature can help predict impending drive failures.

➤ The choice: Auto,Enabled,Disabled.

Hard Disk Write Protect

Set this option to protect the hard disk drive from being overwritten. The Optimal and Fail-Safe default setting is Disabled.

Disabled:Set this value to allow the hard disk drive to be used normally. Read, write, and erase functions can be performed to the hard disk drive. This is the default setting.

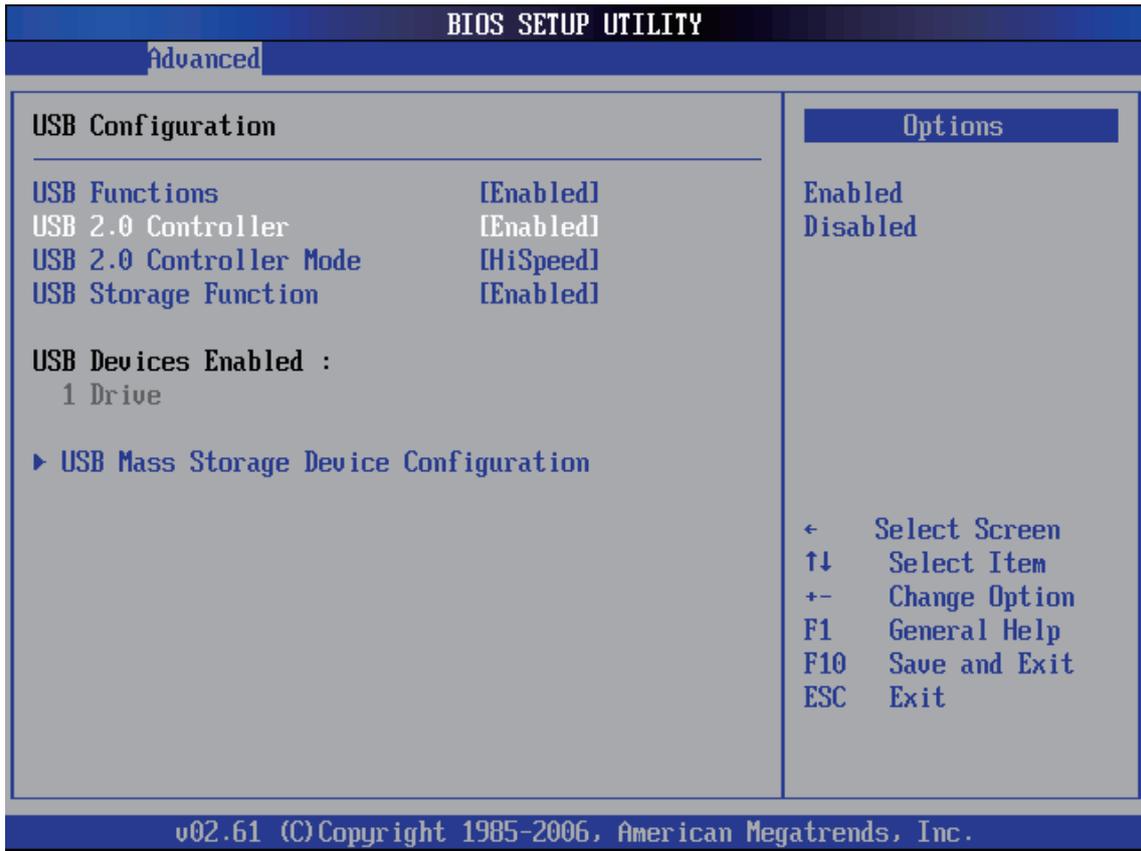
Enabled:Set this value to prevent the hard disk drive from being erased.

➤ The choice: Enabled, Disabled.

USB Configuration

You can use this screen to select options for the USB Configuration. Use the up and down <Arrow> keys to select an item. Use the <Plus> and <Minus> keys to change the value of the selected option. The settings are described on the following pages.

The screen is shown below.



USB Function

Set this value to allow the system to enable or disable the onboard USB ports. The Optimal and Fail-Safe default setting is Enabled.

Disabled: This setting makes the onboard USB ports unavailable.

Enabled: This setting allows the use of the USB ports. This is the default setting.

- The choice: Enabled, Disabled.

USB 2.0 Controller

This item allows you to enable or disable the USB 2.0 Controller.

- The choice: Enabled or Disabled.

USB 2.0 Controller Mode

Configures the USB 2.0 Controller in HiSpeed(480 Mbps) or FullSpeed(12Mbps).

- The choice: HiSpeed or FullSpeed.

USB Storage Function

Enables support for legacy USB. AUTO option disables legacy support if no USB devices are connected.

- The choice: Disabled, Enabled or Auto.

USB Mass Storage Device Configuration

Option are in its sub-menu.

Press<Enter>to enter the sub-menu of detailed options.

USB Mass Storage Reset Delay

It enables you to set the number of seconds the POST waits for the USB mass storage device after the start unit command is sent.

- The choice: 10 Sec, 20 Sec, 30 Sec, 40 Sec.

Device #1

Read only.

Emulation Type

If Auto, USB devices less than 530 MB will be emulated as Floppy and remaining as hard drive. Forced FDD option can be used to force a HDD formatted drive to boot as FDD (Ex. ZIP drive)..

- The choice: Auto, Floppy, Forced, FDD, Hard Disk, CDROM.

Onboard Device Configuration

You can use this screen to select options for the Onboard Device Configuration. Use the up and down <Arrow> keys to select an item. Use the <Plus> and <Minus> keys to change the value of the selected option. The settings are described on the following pages. The screen is shown below.



Panel LED Lightness Set

This item allows you to control the brightness of Panel LED.

- The choice: 0%, 10%, ~ , 100%.

Audio Controller

This item allows you to enable or disable the Audio Controller.

- The choice: Enabled, Disabled.

Onboard LAN Device 1

This item allows you to enable or disable the onboard LAN Device 1.

- The choice: Enabled, Disabled.

Onboard LAN Device 2

This item allows you to enable or disable the onboard LAN Device 2.

- The choice: Enabled, Disabled.

LAN Remote Boot

This item allows you to enable or disable the LAN Remote Boot.

- The choice: Enabled, Disabled.

IGD Graphics Mode Select

This item allows you to set the IGD Graphics Mode Select.

- The choice: 32MB , 64MB , 128MB.

DVMT Mode Select

This item allows you to set the DVMT Mode.

- The choice: DVMT Mode , Fixed Mode .

DVMT/FIXED Memory

This item allows you to set the DVMT/FIXED Memory.

- The choice: 128MB , 256MB , Maximum DVMT.

Serial Port1 IC

This item allows you to change the mode of COM1.

- The choice: RS232, RS422, RS485.

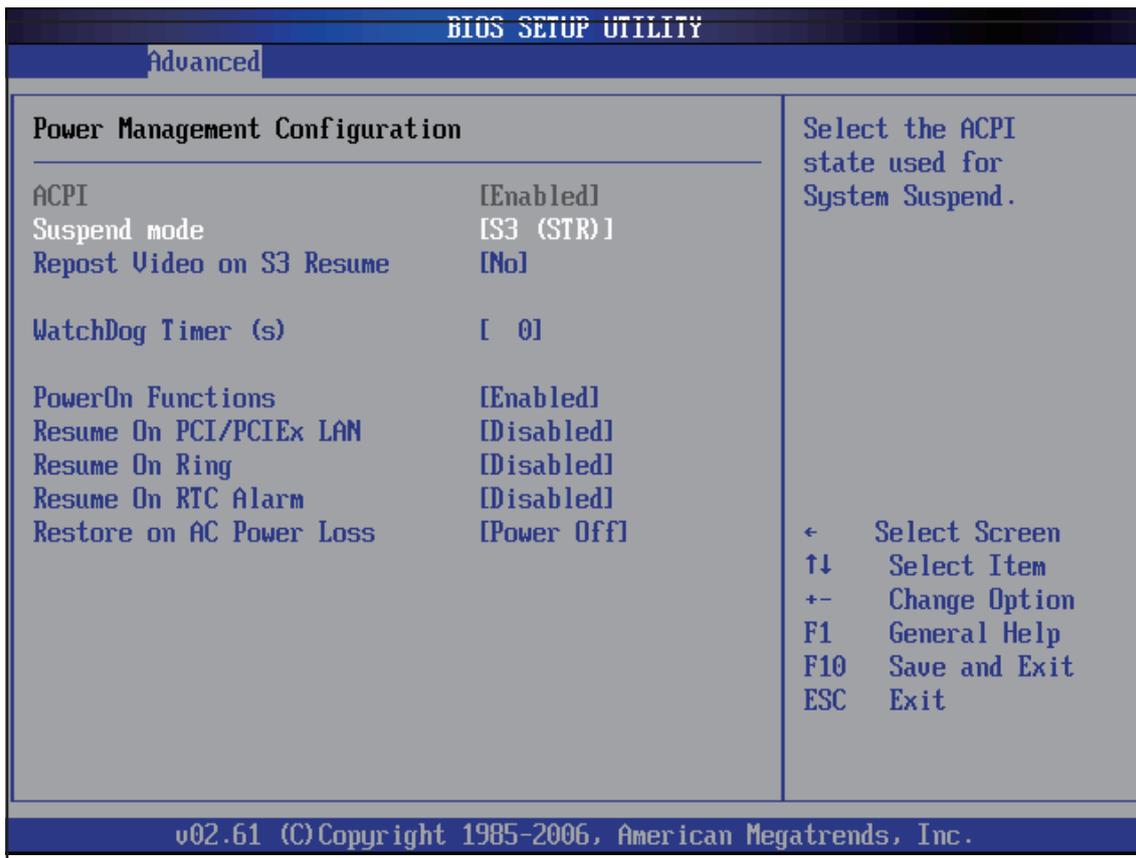
Serial Port1/Port2 Address

These options are used to assign the I/O address and interrupt request (IRQ) for the onboard serial port 1 and port 2.

- The choice: Disabled, 3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, and 2E8/IRQ3.

Power Management Configuration

You can use this screen to select options for the Power Management Configuration. Use the up and down <Arrow> keys to select an item. Use the <Plus> and <Minus> keys to change the value of the selected option. The settings are described on the following pages. The screen is shown below.



Suspend mode

Select the ACPI state used for System Suspend.

- The choice: S1 (POS), S3 (STR).

Repost Video on S3 Resume

Determines whether to invoke VGA BIOS POST on S3/STR resume.

- The choice: Yes, No.

WatchDog Timer (s)

This item allows you to set the time to reboot after POST.

- The choice: 0~255.

PowerOn Functions

This item allows you to enable/disable the PowerOn Functions .

- The choice: Enabled, Disabled.

Resume On PCI/PCIEx LAN

This item allows you to enable/disable PCI/PCIEx LAN to generate .

- The choice: Enabled, Disabled.

Resume On Ring

This item allows you to set Resume On Ring.

- The choice: Enabled, Disabled.

Resume On RTC Alarm

This item allows you to set Resume On RTC Alarm.

- The choice: Enabled, Disabled.

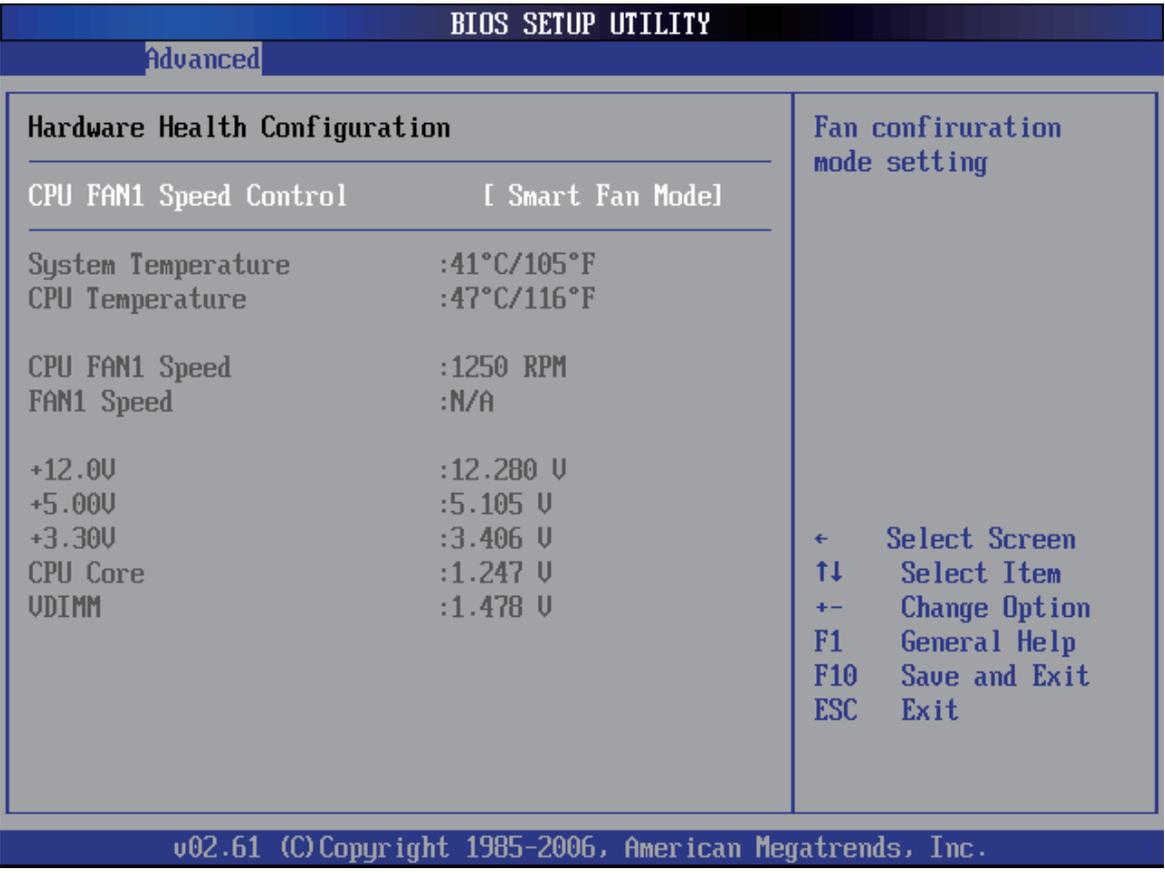
Restore on AC Power Loss

This item allows you to set Restore on AC Power Loss.

- The choice: Power Off , Power On.

Hardware Health Configuration

You can use this screen to select options for the Hardware Health Configuration. Use the up and down <Arrow> keys to select an item. Use the <Plus> and <Minus> keys to change the value of the selected option. The settings are described on the following pages. The screen is shown below.



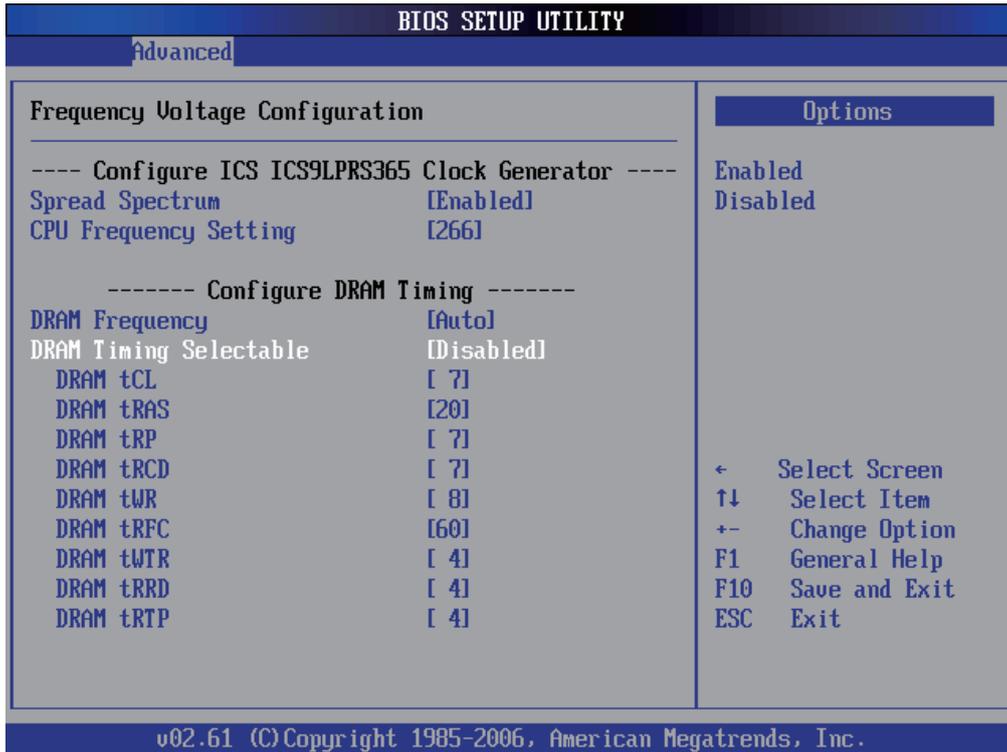
CPU Fan1 Speed Control

Here you can set the CPU Fan1 Speed.

- The choice: Smart Fan Mode, Ultra-Low Speed, Low Speed, Mid Speed, or Full Speed.

Frequency Voltage Configuration

You can use this screen to select options for the Frequency Voltage Configuration. Use the up and down <Arrow> keys to select an item. Use the <Plus> and <Minus> keys to change the value of the selected option. The settings are described on the following pages. The screen is shown below.



---- Configure ICS ICS9LPRS365 Clock Generator ----

Spread Spectrum

This item allows to set Clock Spread Spectrum for EMI Control.

- The choice: Disabled or Enabled.

CPU Frequency Setting

This item allows to set CPU Host Frequency. BIOS auto detects the present CPU host frequency of this motherboard. The actual CPU host frequency will show in the following item.

Min: 133 Max: 400

- Key in a DEC number: (Between Min and Max.)

---- Configure DRAM Timing ----

DRAM Frequency

This item allows to set DRAM Frequency. If [Auto] is selected, the motherboard will detect the memory module(s) inserted and assigns appropriate frequency automatically.

- The choice: Auto, 800MHz, 1066MHz.

DRAM Timing Selectable

Select [Enabled] will configure the following items by the contents in the SPD (Serial Presence Detect) device.

- The choice: Disabled or Enabled.

DRAM tCL

When synchronous DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing

- The choice: 3 ~ 10.

DRAM tRAS

The precharge time is the number of cycles it takes for DRAM to accumulate its charge before refresh.

- The choice: 9 ~ 24.

DRAM tRP

If an insufficient number of cycles is allowed for the RAS to accumulate its charge before DRAM refresh, the refresh may be-incompleted, and the DRAM may fail to retain data. Fast gives faster performance; and Slow gives more stable performance. This field is applied only when synchronous DRAM is installed in the system.

- The choice: 3 ~ 10.

DRAM tRCD

This field lets you insert a timing delay between the CAS and RAS strobe signals, and you can use it when DRAM is written to, read from, or refreshed. Faster performance is gained in high speed, more stable performance, in low speed. This field is applied only when synchronous DRAM is installed in the system.

- The choice: 3 ~ 10.

DRAM tWR

This item allows you to set Write Recovery Time.

- The choice: 3 ~ 15

DRAM tRFC

This item allows you to set Write Recovery Time.

- The choice: 3 ~ 15

DRAM tWTR

This item allows you to set Write to Read Delay.

- The choice: 2 ~ 15.

DRAM tRRD

This item allows you to set Row Active Delay.

- The choice: 2 ~ 15.

DRAM tRTP

This item allows you to set Read to Precharge Delay.

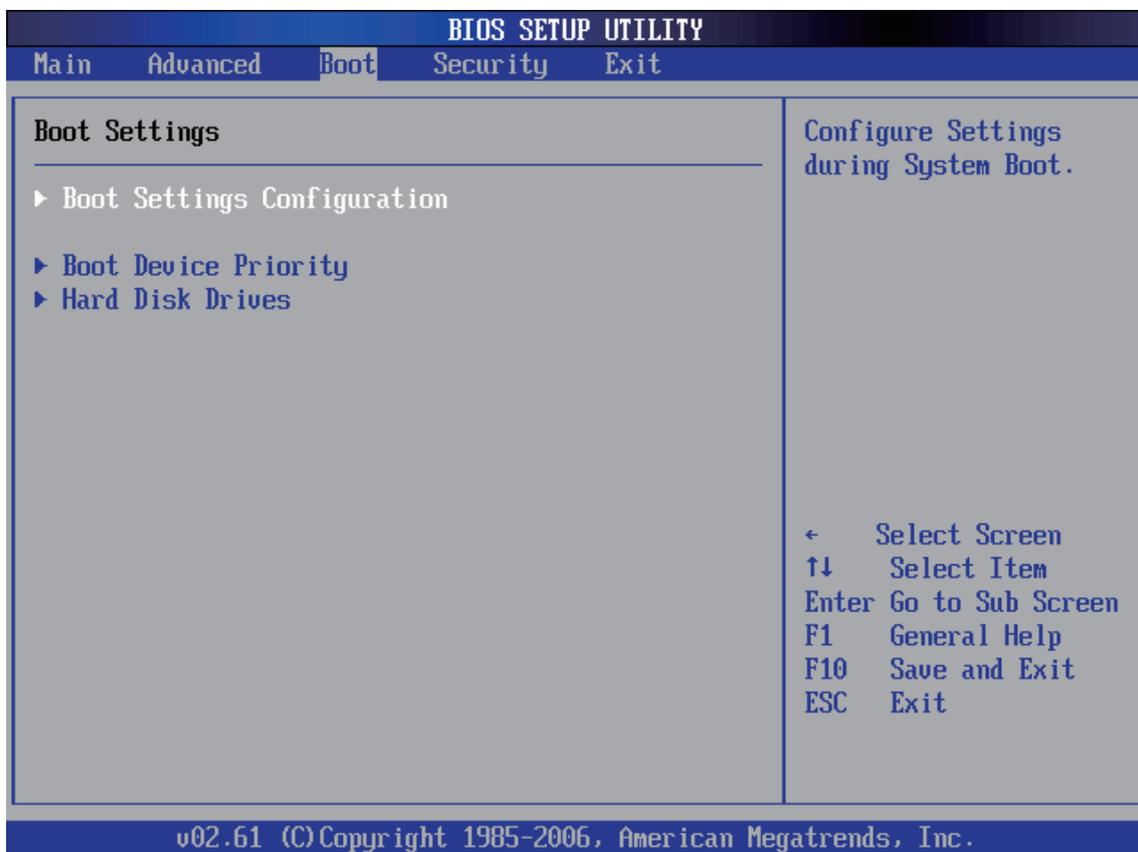
- The choice: 2 ~ 15.

Boot

Select the Boot tab from the BIOS setup screen to enter the Boot BIOS Setup screen. You can select any of the items in the left frame of the screen, such as Boot Settings Configuration, to go to the sub menu for that item.

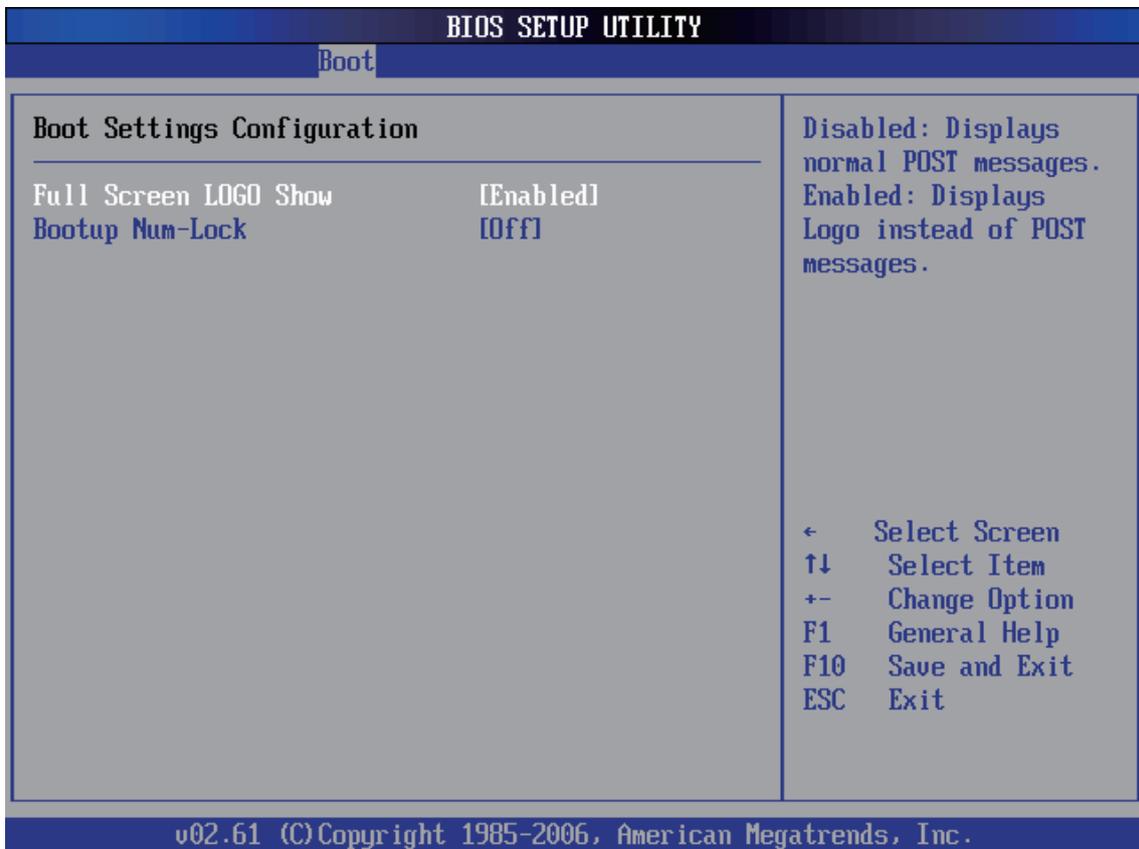
You can display an Boot BIOS Setup option by highlighting it using the <Arrow> keys. All Boot BIOS Setup options are described in this section.

The Boot BIOS Setup screen is shown below. The sub menus are described on the following pages.



Boot Settings Configuration

You can use this screen to select options for the Boot Settings Configuration. Use the up and down <Arrow> keys to select an item. Use the <Plus> and <Minus> keys to change the value of the selected option. The settings are described on the following pages. The screen is shown below.



Full Screen LOGO Show

This item allows you to enable/disable the Full Screen LOGO Show.

Disabled: Displays normal POST messages.

Enabled: Displays Logo instead of POST messages.

➤ The choice: Enabled, Disabled.

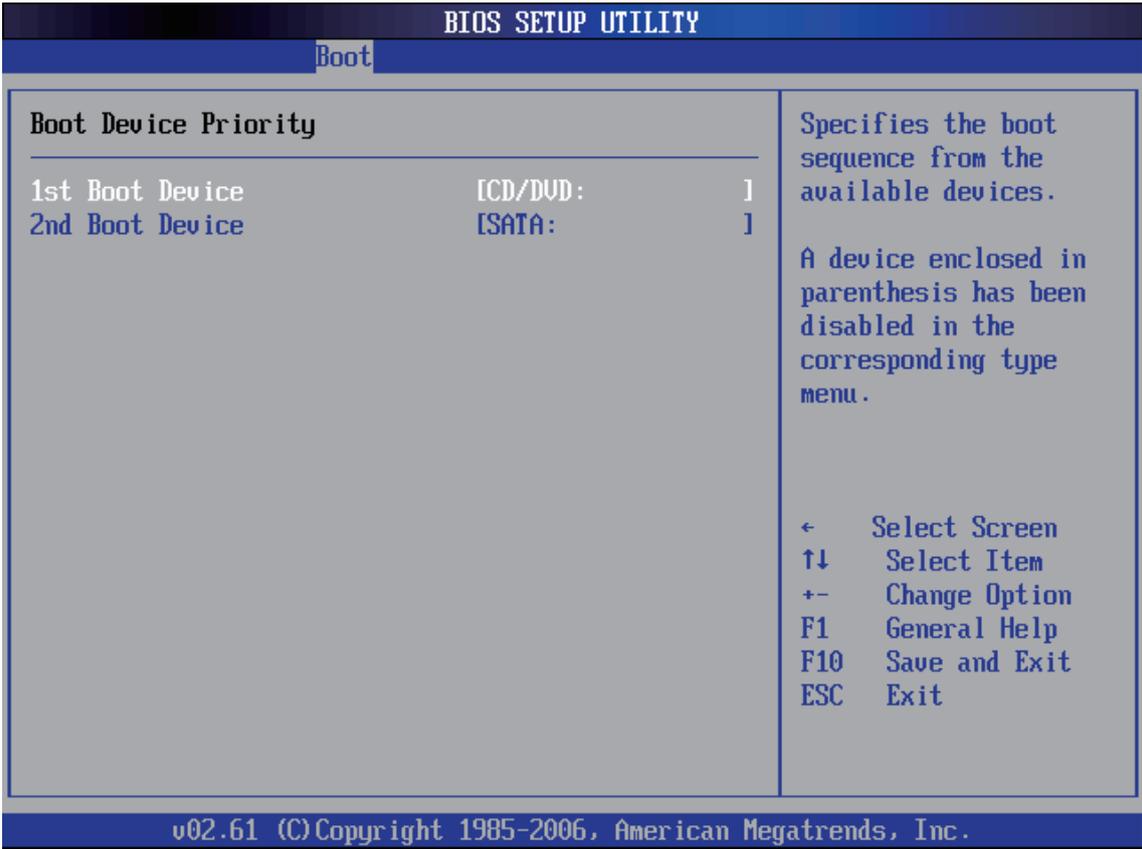
Bootup Nnum-Lock

Select Power-on state for Nnumlock.

➤ The choice: On or Off.

Boot Device Priority

Use this screen to specify the order in which the system checks for the device to boot from. To access this screen, select Boot Device Priority on the Boot Setup screen and press <Enter>. The following screen displays:



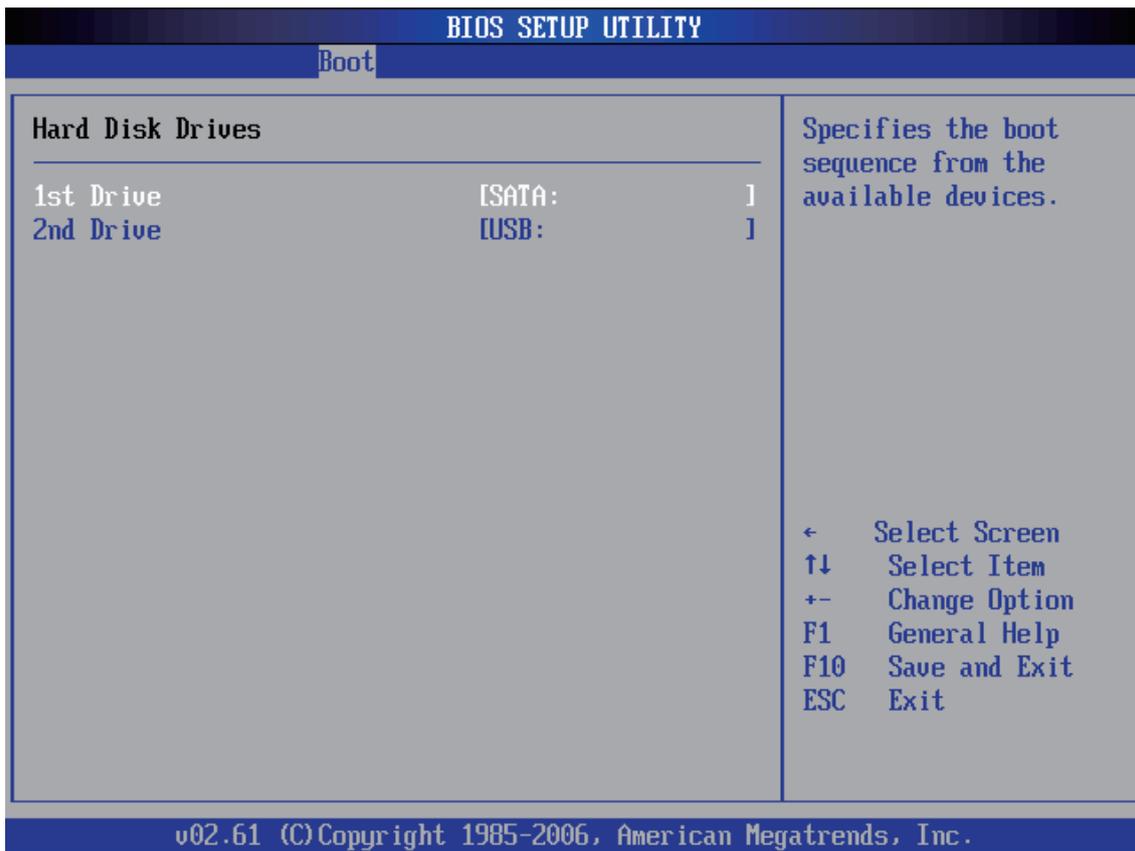
To change the boot order, select a boot category type such as Hard disk drives, Removable Drives, or CD Drives from the boot menu.

For example, if the 1st boot device is set to Hard disk drives, then BIOS will try to boot to hard disk drives first.

 When you select a boot category from the boot menu, a list of devices in that category appears. For example, if the system has three hard disk drives connected, then the list will show all three hard disk drives attached.

Hard Disk Drives /Removable Drives / CD Drives

Use this screen to view the Hard Disk Drives in the system. To access this screen, select Hard disk drives on the Boot Setup screen and press <Enter>. The following screen displays examples of hard disk drives:

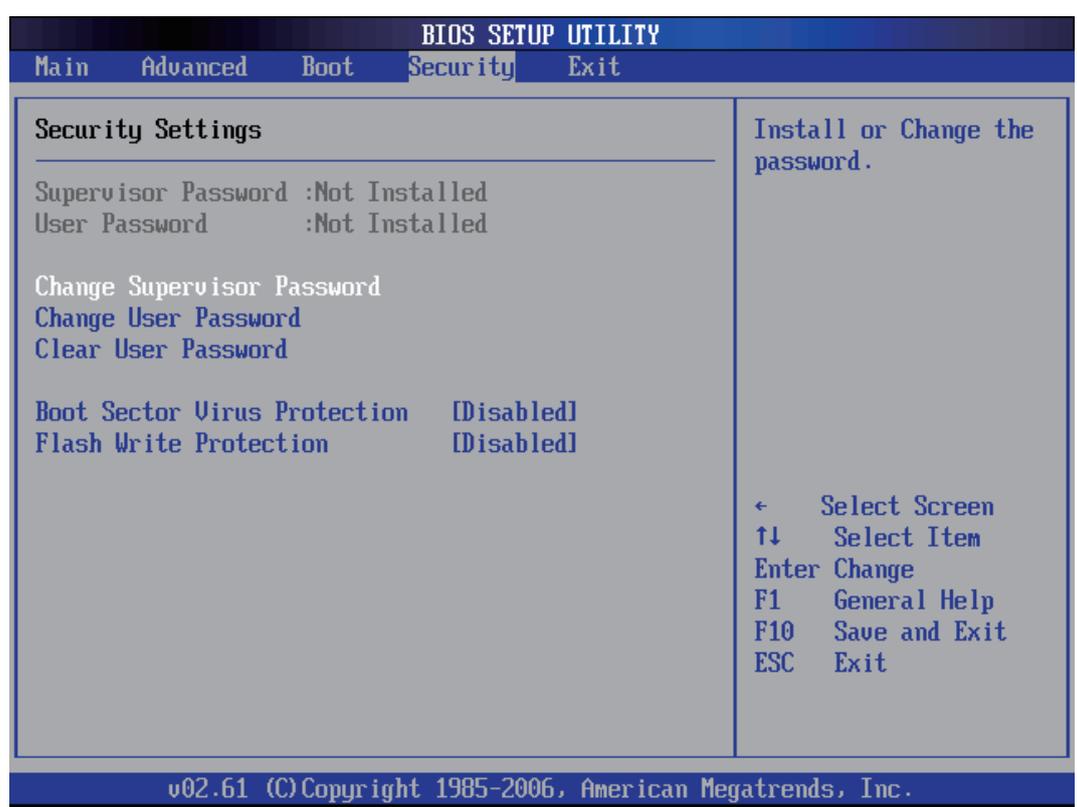


Specifies the boot sequence from the available devices.

Security

Select the Security tab from the BIOS setup screen to enter the Security BIOS Setup screen. You can display an Security BIOS Setup option by highlighting it using the <Arrow> keys. All Security BIOS Setup options are described in this section.

The Security Setup screen is shown below. The sub menus are documented on the following pages.



Supervisor Password

Indicates whether a supervisor password has been set. If the password has been installed, Installed displays. If not, Not Installed displays.

User Password

Indicates whether a user password has been set. If the password has been installed, Installed displays. If not, Not Installed displays.

Change Supervisor Password

Select Change Supervisor Password from the Security Setup menu and press <Enter>.

Enter New Password:

appears. Type the password and press <Enter>. The screen does not display the characters entered. Retype the password as prompted and press <Enter>. If the password confirmation is incorrect, an error message appears. The password is stored in NVRAM after BIOS completes.

Change User Password

Select Change User Password from the Security Setup menu and press <Enter>.

Enter New Password:

appears. Type the password and press <Enter>. The screen does not display the characters entered. Retype the password as prompted and press <Enter>. If the password confirmation is incorrect, an error message appears. The password is stored in NVRAM after BIOS completes.

Clear User Password

Select Clear User Password from the Security Setup menu and press <Enter>.

Clear New Password

[Ok] [Cancel]

appears. Type the password and press <Enter>. The screen does not display the characters entered. Retype the password as prompted and press <Enter>. If the password confirmation is incorrect, an error message appears. The password is stored in NVRAM after BIOS completes.

Boot Sector Virus Protection

This option is near the bottom of the Security Setup screen. The Optimal and Fail-Safe default setting is Disabled.

[Disabled] Set this value to prevent the Boot Sector Virus Protection.
This is the default setting.

[Enabled] Select Enabled to enable boot sector protection. Bios displays a warning when any program (or virus) issues a Disk Format command or attempts to write to the boot sector of the hard disk drive. If enabled, the following appears when a write is attempted to the boot sector. You may have to type N several times to prevent the boot sector write.

Boot Sector Write!

Possible VIRUS: Continue (Y/N)? _

The following appears after any attempt to format any cylinder, head, or sector of any hard disk drive via the BIOS INT 13 Hard disk drive Service:

```
Format!!!  
Possible VIRUS: Continue (Y/N)? _
```

- The choice: Enabled or Disabled.

Flash Write Protection

Choose [Enabled] to avoid virus destroy BIOS. If you want to flash BIOS, you must set it [Disabled].

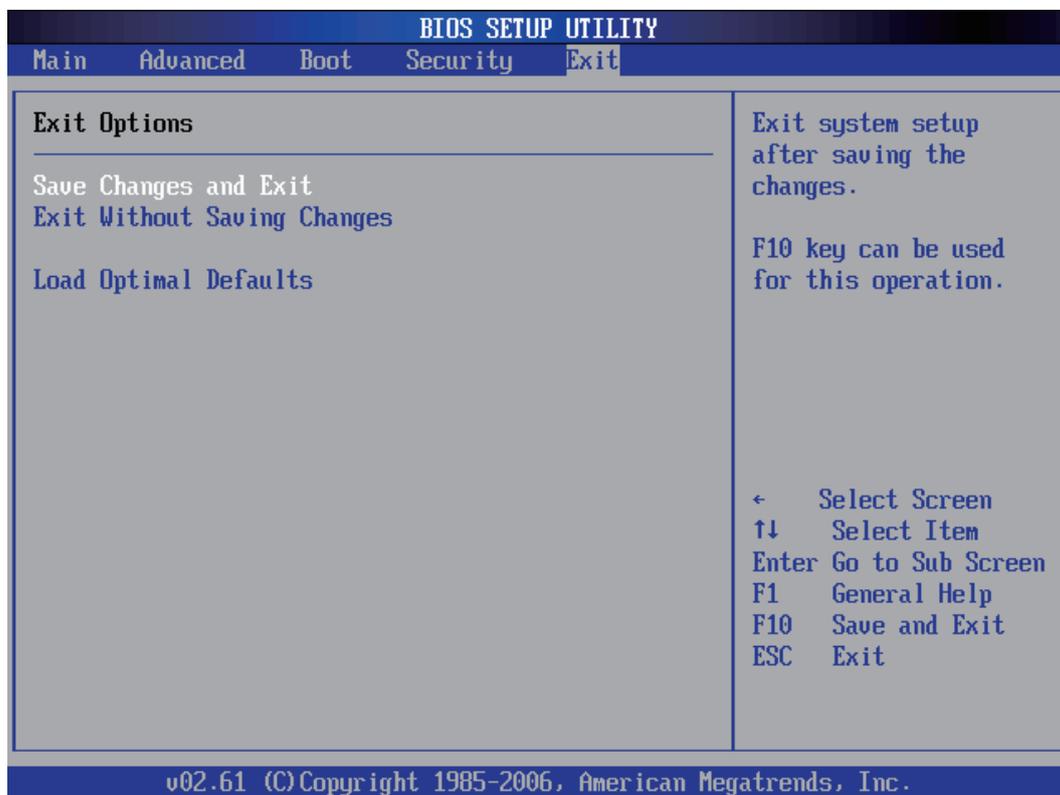
- The choice: Enabled or Disabled.

Exit

Select the Exit tab from the BIOS setup screen to enter the Exit BIOS Setup screen.

You can display an Exit BIOS Setup option by highlighting it using the <Arrow> keys. All Exit BIOS Setup options are described in this section.

The Exit BIOS Setup screen is shown below.



Save Changes and Exit

When you have completed the system configuration changes, select this option to leave BIOS Setup and reboot the computer so the new system configuration parameters can take effect.

Select "Save Changes and Exit" from the Exit menu and press <Enter>.

Save Configuration Changes and Exit Now?

[Ok] [Cancel]

appears in the window. Select Ok to save changes and exit.

Exit without Saving Changes

Select "Exit without Saving Changes" from the Exit menu and press <Enter>.

Select Ok to discard changes and Exit.

Load Optimal Defaults

BIOS automatically sets all BIOS Setup options to a complete set of default settings when you Select this option. The Optimal settings are designed for maximum system performance, but may not work best for all computer applications. In particular, do not use the Optimal BIOS Setup options if your computer is experiencing system configuration problems.

Select Load Optimal Defaults from the Exit menu and press <Enter>.

Select Ok to load optimal defaults.